CLAIMS

I/we claim:

1. An apparatus for determining the temperature of a flowing medium in at least a section (2) of a pipe or tube conduit, comprising a sensor element (3) having a ceramic substrate and a thin-film resistor arranged thereon, at least two electrical leads electrically and mechanically connected to the sensor element, and a plastic housing (5) in which the sensor element is arranged and which has an opening (6) at least for the conduit section (2), wherein the plastic housing (5) is formed as a molded part, the electrical leads comprise metal strips (4a, 4b) having first and second ends, the sensor element (3) is arranged at the first end of the metal strips (4a, 4b), and the plastic housing (5) is molded around the metal strips (4a, 4b) in a region between their first and second ends.

2. The apparatus according to Claim 1, wherein the conduit section (2) and the sensor element (3) are arranged in the opening (6), and the sensor element (3) and the conduit section (2) are connected to each other by a heat-conductive material (7).

3. The apparatus according to Claim 2, wherein the plastic housing (5) is molded around the conduit section (2) in at least one region along its outer diameter.

4. The apparatus according to Claim 1, wherein in a region of the second end of the metal strips (4a, 4b) the plastic housing (5) has a form of a plug (5a) for connecting the metal strips (4a, 4b) to an electrical connection cable.

5. The apparatus according to Claim 1, wherein the opening (6) is closed with a cover (8).

6. A method for producing an apparatus according to Claim 2, comprising bending the metal strips (4a, 4b) a first time in a region between their first and second ends, molding the plastic housing (5) around the metal strips (4a, 4b) in the region between their first and second ends and around the conduit section (2) in at least one region along its outer diameter, bending the first end of the metal strips (4a, 4b) a second time to place the first end near the conduit section (2), and providing an amount of heat-conductive material (7) in the opening (6) to connect the conduit section (2) and the sensor element (3) to each other.

7. The method according to Claim 6, comprising assembling the sensor element (3) to the first end before the first bending of the metal strips (4a, 4b).

8. The method according to Claim 6, comprising assembling the sensor element (3) to the first end after the second bending of the metal strips (4a, 4b).

9. The method according to Claim 6, wherein the metal strips (4a, 4b) are bent the first time by +90° from an original position, and the metal strips (4a, 4b) are bent the second time by -90° back to the original position.

10. A method of producing an apparatus according to Claim 2, comprising bending the metal strips (4a, 4b) a first time in a region between their first and second ends, molding the plastic housing (5) around the metal strips (4a, 4b) in the region between their first and second ends, setting the conduit section (2) in the opening (6), bending the first end of the metal strips (4a, 4b) a second time to place the first end near the conduit section (2), and providing an amount of heat-conductive material (7) in the opening (6) to connect the conduit section (2) and the sensor element (3) to each other.

11. The method according to Claim 10, comprising assembling the sensor element (3) to the first end before the first bending of the metal strips (4a, 4b).

12. The method according to Claim 10, comprising assembling the sensor element (3) to the first end after the second bending of the metal strips (4a, 4b).

13. The method according to Claim 10, wherein the metal strips (4a, 4b) are bent the first time by +90° from an original position, and the metal strips (4a, 4b) are bent the second time by -90° back to the original position.